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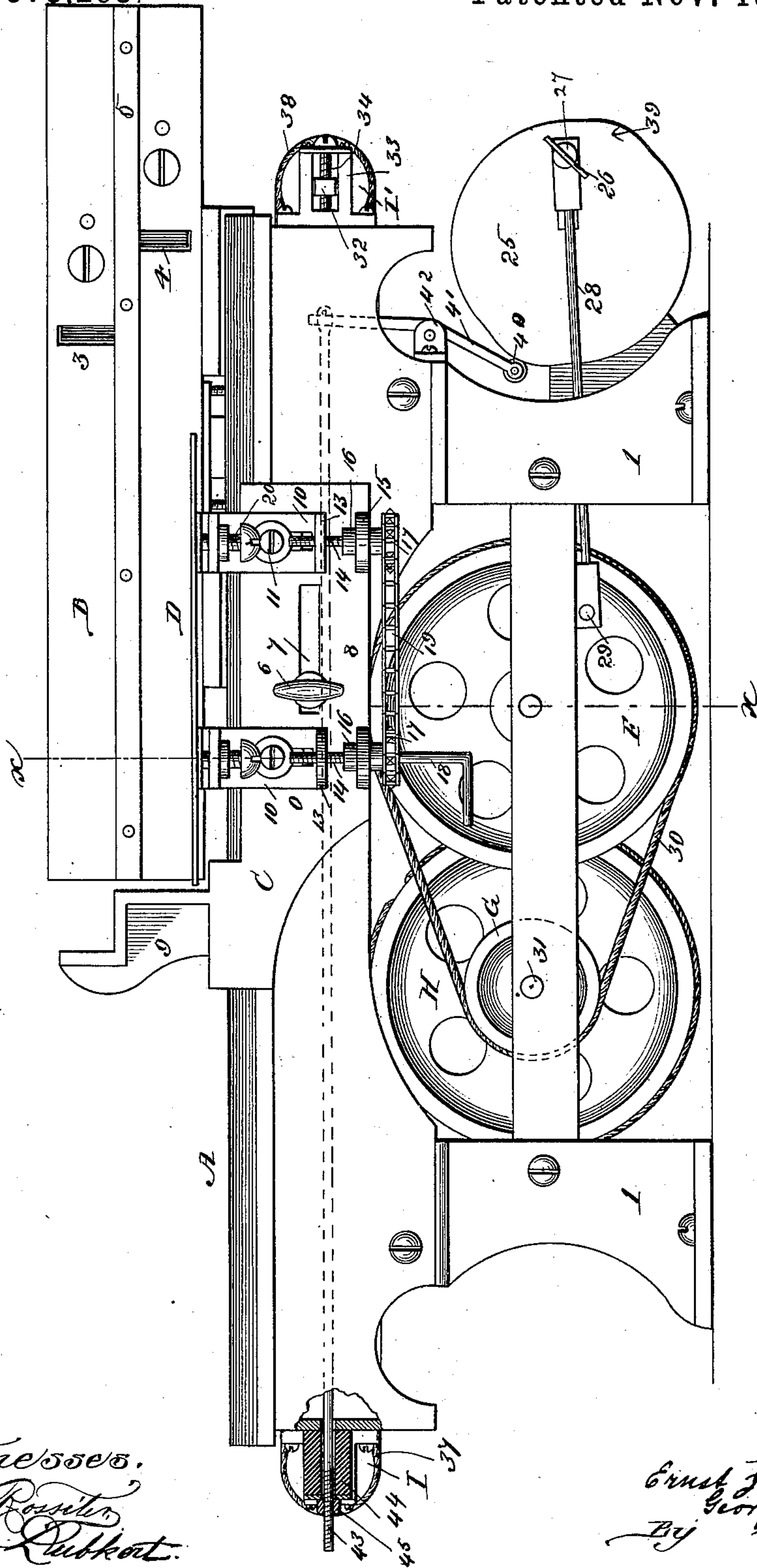
3 Sheets—Sheet 1.

E. JENNER & G. EISERER.  
STROKE JOINTER.

No. 373,293.

Patented Nov. 15, 1887.

Fig 1.



Witnesses.  
H. R. Smith  
Otto Lubkott.

Inventors  
E. Jenner  
G. Eiserer  
By Wm. L. Lott  
Atty.

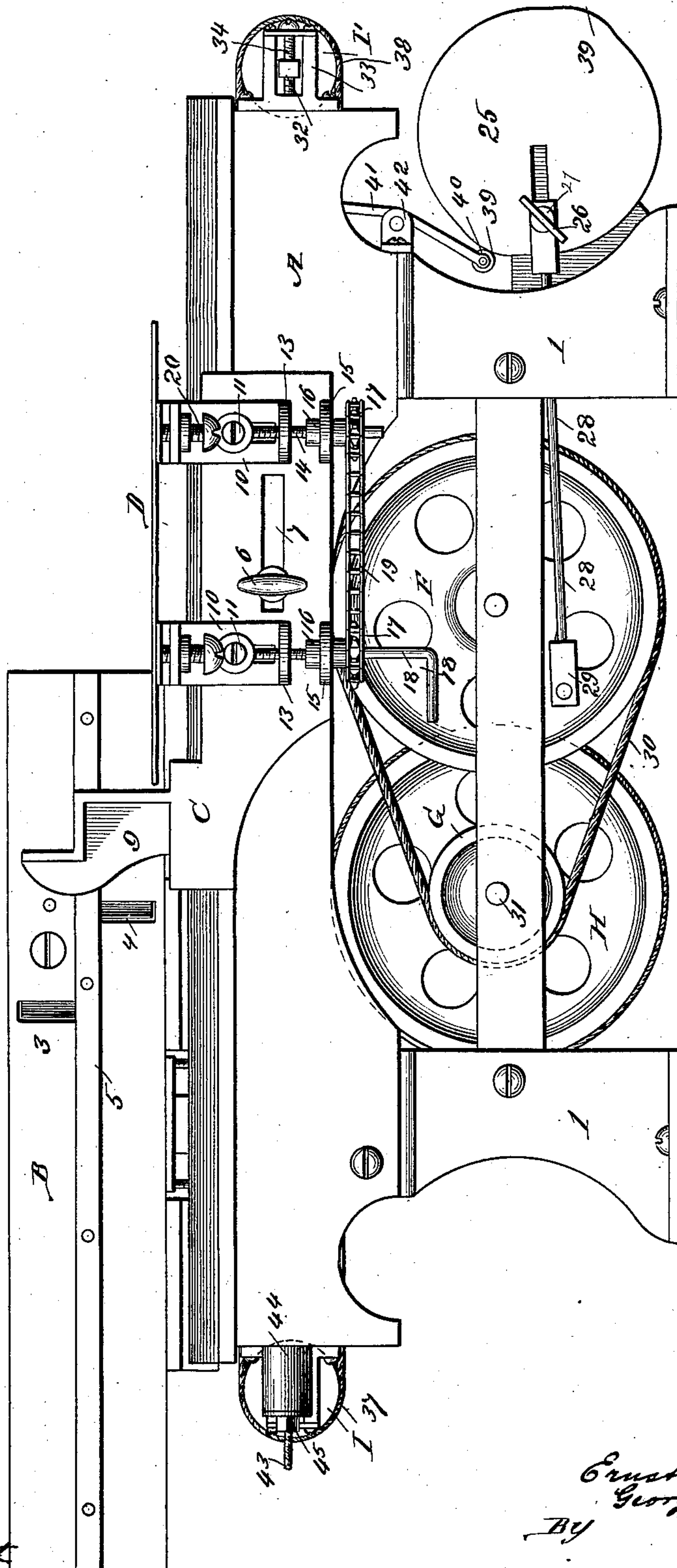
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E. JENNER & G. EISERER.  
STROKE JOINER.

No. 373,293.

Patented Nov. 15, 1887.



Witnesses  
J. R. Roster  
Otto L. Skott

Inventor's  
Ernest Jenner.  
Georg Eiserer  
BY Wm Lutz  
Atty.



(No Model.)

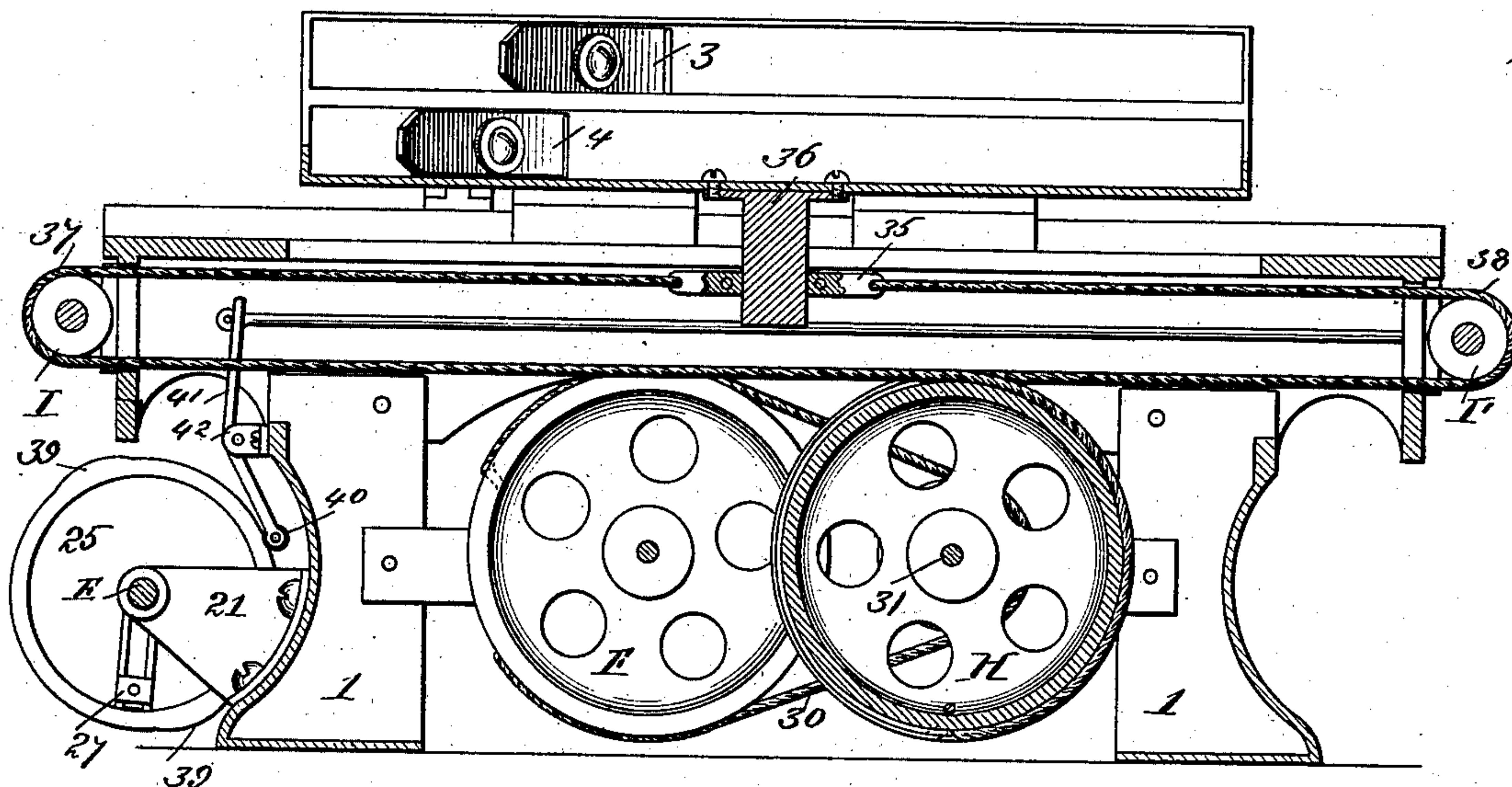
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E. JENNER & G. EISERER.  
STROKE JOINTER.

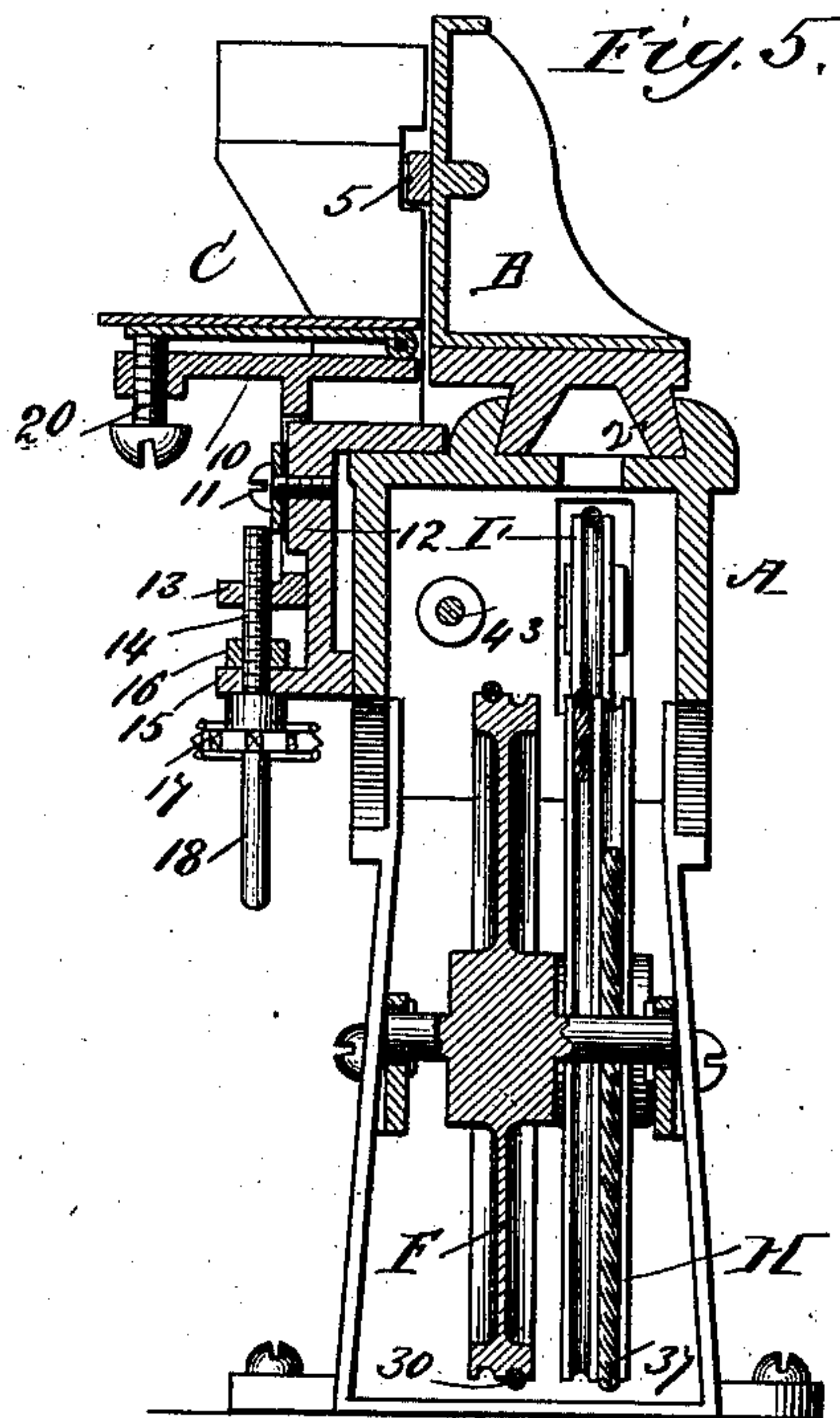
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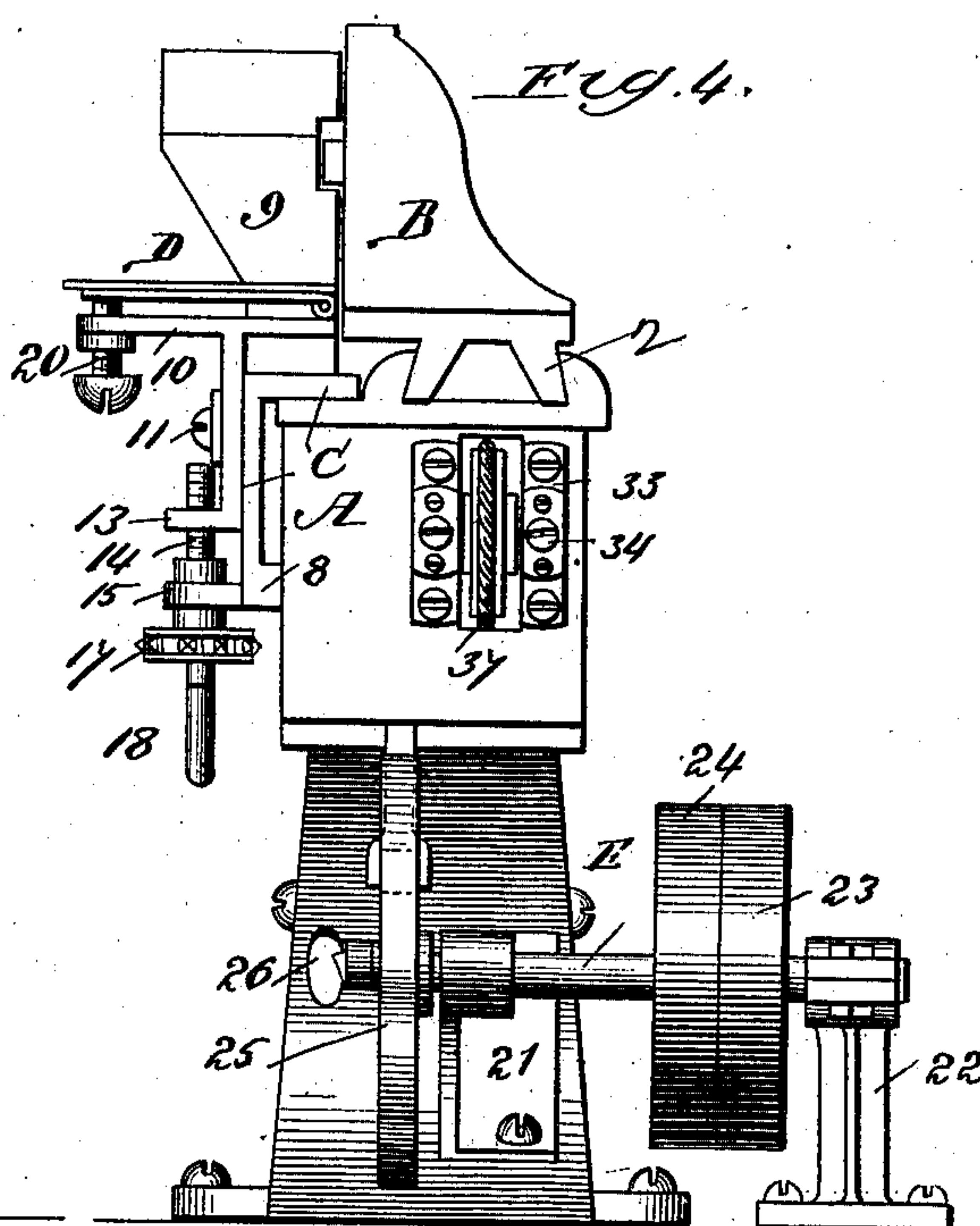
*Fig. 3.*



*Fig. 5.*



*Fig. 4.*



Witnesses.  
H. Rosser  
Otto Lubkert

Inventor  
Eust Jenner  
G. Eiserer  
By Wm. L. L. L.  
Atty.



# UNITED STATES PATENT OFFICE.

ERNST JENNER AND GEORG EISERER, OF CHICAGO, ILLINOIS.

## STROKE-JOINTER.

SPECIFICATION forming part of Letters Patent No. 373,293, dated November 15, 1887.

Application filed May 31, 1887. Serial No. 239,804. (No model.)

*To all whom it may concern:*

Be it known that we, ERNST JENNER and GEORG EISERER, subjects of the Emperor of Germany, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Stroke-Jointers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to machines for planing the edges of planks or strips to be perfectly straight and smooth for forming close joints when put together. Machines for that purpose have heretofore generally consisted of a frame guiding the reciprocating planer-head and provided with an adjustable support for holding the plank or strip to be planed, and of a shaft journaled in standard-bearings secured upon the floor some distance away from the machine, and having mounted loose and tight pulleys for driving by a belt and a balance-wheel, with a crank-pin connected with the planer-head by a pitman for reciprocating such planer-head. This arrangement for thus transmitting a reciprocating movement has many disadvantages—it takes up much floor room in the shop, the strain and momentum of reciprocation being sustained by the floor cause the entire building to shake, and the long pitman thus projecting endangers the workmen.

Now, it is the object of our invention to provide a machine that is compact and complete within a single frame in which the distance of reciprocation of the planer-head can be instantly adjusted, and wherein the momentum of reciprocation is counteracted; and with these objects in view our invention consists of the novel devices and combinations of devices hereinafter described and specifically claimed.

In the accompanying drawings, Figures 1 and 2 represent side elevations of the machine, showing the planer-head on its two opposite stroke ends. Fig. 3 is a longitudinal-vertical section; Fig. 4, an end elevation, and Fig. 5 a transverse vertical section on line *xx* in Fig. 1.

Corresponding referential characters in the several figures of the drawings designate like parts.

A denotes the main frame supported on end legs, 1, and having a dovetailed groove, 2,

planed in its upper surface for guiding the planer-head B, that in its vertical face has inserted the planer-knives 3 and 4, one above and the other below a dividing-strip, 5.

Upon the front edge and against the front face of frame A is secured the board-supporting frame C by a thumb screw, 6, passed through a slot, 7, in the pendent flange 8, and tapped into frame A in a manner that such frame C is longitudinally adjustable on such frame A. This frame C has a step-like standard, 9, to one end thereof, the surface of the shelf of which is flush with the top edge of strip 5 of the planer-head. Against the pendent flange 8 are also secured two T-shaped brackets, 10, each slotted in its vertical leg for adjustably holding it by a set-screw, 11, passed through such slot and tapped into a protuberance, 12, of frame C, that enters the slot in bracket 10, for guiding the same. The lower end of the vertical leg of each T-shaped bracket 10 has a lug, 13, tapped by a screw, 14, and these screws 14 are pivoted in eye-lugs 15 of frame C, and have collars 16 and sprocket-wheels 17, that hold the screws vertically, and one of these screws has formed to its lower end a crank, 18. An endless chain, 19, stretched over sprocket-wheels 17, will cause both screws 14 to move simultaneously, and as turned by crank 18 in one direction or another to raise or lower the brackets 10.

Upon the rear ends of T-shaped brackets 10 is secured by hinges the rear edge of table D, the front edge of which is supported on the points of set-screws 20, tapped through the forward ends of brackets 10, for adjusting table D to a horizontal or angular position.

The upper planer-knife, 3, is to be adjusted for cutting a heavy chip, wherefore the board to be planed on its edge is supported on the shelf of standard 9 and on strip 5, after which the smooth cut is made by the lower planer-knife, 4, wherefore the board is placed upon the table D, butting against standard 9.

So far described the devices, excepting slot 7 of frame C, and thumb-screw 6, for adjustably securing frame C, are old, and we do not claim the same, and now we will proceed with describing our improvements in devices for reciprocating the planer-head.

In a bracket-bearing, 21, secured against



one of the legs 1, and a standard-bearing, 22, secured upon the floor is journaled the driving-shaft E, having loose and tight pulleys 23 and 24 for driving by a belt, and having 5 mounted upon its end a disk, 25, radially slotted for adjustably securing by a thumb-screw, 26, the crank-pin 27. This crank-pin 27, by a pitman, 28, is connected with a crank-pin, 29, that is rigid with a wheel, F, having 10 two grooves in its periphery for the ends of a rope, 30, passed around the same from opposite directions about one-half its periphery, and is secured thereon. This rope 30 is wound over a smaller pulley, G, mounted upon a 15 shaft, 31, upon which is also mounted a pulley, H, that is also provided with two grooves in its periphery.

The shafts of wheels F and G H are pivoted between longitudinal bars secured against 20 legs 1.

Grooved guide-pulleys I I' are pivoted with their journals in boxes 32, horizontally guided in brackets 33, secured against the opposite ends of frame A and provided with screws 34, 25 for adjusting these boxes 32. To a coupling-link, 35, secured to the pendant 36, that is bolted to be rigid with planer-head B, are secured the ends of two ropes, 37 and 38. The rope 37, being passed over pulley I, is then 30 passed with its opposite end over about one-half of the circumference of pulley H, and is secured thereto, while the rope 38 is passed over pulley I', and then over pulley H in the direction opposite to rope 37, and is secured 35 thereon, both ropes 37 and 38 being stretched taut by moving pulleys I and I' by means of screw 34. The rotating movement of the main shaft E will transmit an oscillating movement to wheel F, which angle of oscillation 40 may be increased or decreased by shifting the crank-pin 27 away from or toward the shaft E. This oscillation of wheel F being transmitted to wheels G and H by rope 30 in an increased proportion, the ropes 37 and 38 45 again will transmit it to the planer-head to be reciprocated thereby, and for the purpose of breaking the momentum of reciprocation to a certain extent the link 35 may be connected to the pendant 36, with interposed rubber 50 blocks, that will make the pull elastic in either direction.

A further device applied to prevent shaking of the machine from the momentum of reciprocation consists in providing the disk 55 25 with cam projections 39, which, just at the point where the crank-pin passes the point reversing the motion, come in contact with a small roller, 40, of a lever, 41, pivoted at about its center in a bracket, 42, that is rigid 60 with the frame, while its upper end connects with a rod, 43, that is passed through a rubber spring, 44, at the opposite end of frame A,

and is adjustably contracted against such spring by a nut, 45. The roller 40 will thus act as a brake for preventing a backlash of the 65 parts at the end of each stroke of planer-head B.

It will be noticed that a machine thus constructed is complete within a compact framework, so as to occupy but little space, and is 70 arranged to be easily adjusted for different lengths of boards or strips to be planed for jointing, and the operating parts are so constructed that they cannot readily get out of order. 75

What we claim is—

1. The combination, with the planer-head and frame in which it is guided, of pulleys pivoted to the opposite ends of the frame, a pulley located below said frame, suitable 80 mechanism for oscillating such lower pulley, and ropes secured to the planer-head, passed over the pulleys on the ends of the frame and wound in opposite directions upon the lower pulley and secured thereto, substantially as 85 set forth.

2. The combination, with frame A and planer-head B, having pendant 36, of pulleys I I' at opposite ends of the frame, pulley H beneath the frame, pulley G, secured on shaft 90 with pulley H, pulley F, located on separate shaft, main shaft E, having crank-disk 25 and pitman 28, ropes 37 and 38, connecting pendant 36 with pulley H in opposite directions, passing over the pulleys I I', and the rope 30, 95 connecting pulleys G and F, substantially as described.

3. The combination, with frame A and planer-head B, having pendant 36, of pulleys I I' at opposite ends of frame A, pulleys H, G, 100 and F below the frame, arranged as described, main shaft E, and disk 25, provided with radially-adjustable crank-pin 27, and pitman 28, ropes 37 and 38, connecting pendant 36 with pulley H in opposite directions and passing 105 over pulleys I I', and rope 30, connecting pulleys G and F.

4. The combination, with the reciprocating planer-head B, and ropes, substantially as described, connected thereto, of the rotating 110 shaft E, having the crank-disk 25, for operating the planer-head through the said connections, cam projection 39, provided upon the crank-disk, the lever 41, having roller 40, bearing on rim of disk 25, rod 43, connected 115 to opposite end of lever 41, and spring 44, all substantially as and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

ERNST JENNER.  
GEORG EISERER.

Witnesses:

WILLIAM H. LOTZ,  
OTTO LUBKERT.